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10/567,292

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ASHOK ADUR, ZENGLI FU, and ROGER W. AVAKIAN

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Appeal 2010-007649  
Application 10/567,292  
Technology Center 1700

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Before BRADLEY R. GARRIS, PETER F. KRATZ, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134, Appellants appeal from the Examiner's rejections under 35 U.S.C. § 103(a) of claims 1, 3, and 9-13 as unpatentable over Giller (US 3,287,440, issued Nov. 22, 1966) in view of Wszolek (US 3,578,614, issued May 11, 1971) or as unpatentable over Abdou-Sabet (US 4,311,628, issued Jan. 19, 1982) in view of Wszolek and Gerber (US 5,145,913, issued Sep. 8, 1992). We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellants claim a thermoplastic vulcanizate comprising polypropylene and EPDM prepared using a catalyst system comprising a non-brominated phenolic resin, a non-transition metal halide such as magnesium chloride, and oxalic acid and/or citric acid (claim 1). Appellants also claim a process for making such a thermoplastic vulcanizate (claim 9).

Representative claim 1 reads as follows:

1. A thermoplastic vulcanizate comprising polypropylene and EPDM prepared using a catalyst system comprising:

at least one non-brominated phenolic resin;

at least one non-transition metal halide wherein the halide comprises magnesium chloride, calcium chloride, sodium chloride, potassium chloride, or combinations thereof;

at least one acid selected from the group consisting of oxalic acid, citric acid, and combinations thereof; and

optionally, at least one hydrogen halide scavenger.

Appellants do not separately argue the rejected claims (Br. 5-7). Therefore, we select independent claim 1 as representative of the claims under rejection, and all appealed claims will stand or fall with this representative claim.

We will sustain the above rejections for the reasons expressed in the Answer and below.

The Rejection based on Giller and Wszolek

The Examiner finds that Giller teaches or would have suggested a thermoplastic vulcanizate comprising polypropylene and EPDM prepared using a catalyst system comprising a non-brominated phenolic resin and a non-transition metal halide such as magnesium chloride as required by claim 1 (Ans. 5), and Appellants do not argue otherwise (Br. 5-7). The Examiner concedes that Giller's catalyst system uses stearic acid rather than the oxalic or citric acid of claim 1 but concludes that it would have been obvious to use, for example, citric acid in the catalyst system of Giller so as to accelerate curing in view of Wszolek (*id.*).

Appellants state that they "do not claim their use of citric acid and oxalic acid is new to the world as curing rate accelerators, just to EPDM" (Br. 6). However, Appellants' statement is contradicted by their subsequent concession (*id.* at 7) and by the Examiner's correct finding (Ans. 5, 7, 11) that Wszolek teaches using such acids for curing polyenes which include EPDM. Particularly in light of this teaching, Appellants' general arguments (e.g., improper picking/choosing and long-felt need) against the Examiner's obviousness conclusion (Br. 7-8) are unconvincing for the reasons fully detailed in the Answer (Ans. 6, 11-13).

We sustain the § 103 rejection of all appealed claims as unpatentable over Giller in view of Wszolek.

The Rejection based on Abdou-Sabet, Wszolek, and Gerber

The Examiner concludes that it would have been obvious to provide Abdou-Sabet's catalyst system for thermoplastic vulcanizate with oxalic or citric acid as a curing accelerator in view of Wszolek (Ans. para. bridging 3-4). We agree.

Appellants' contrary view (Br. 5-7) is without persuasive merit for the reasons given above and in the Answer (Ans. 6-9).

We also agree with the Examiner's ultimate conclusion that it would have been obvious to provide Abdou-Sabet's catalyst system with a non-transition metal halide such as magnesium chloride. As recognized by Appellants (Br. 7), Abdou-Sabet explicitly refers to Giller for details concerning the phenolic curative (i.e., catalyst) systems used by Abdou-Sabet (*see* Abdou-Sabet col. 6, ll. 23-68 (cited by the Examiner at Ans. para. bridging 3-4), esp. ll. 34-38). Moreover, as indicated above, Appellants do not contest in this record the Examiner's finding that Giller would have suggested using a non-transition metal halide such as magnesium chloride in a catalyst system for thermoplastic vulcanizate. Under these circumstances, we perceive no convincing merit in Appellants' argument that it would not have been obvious to use a non-transition metal halide such as magnesium chloride in the catalyst system of Abdou-Sabet (Br. 6-7).

It follows that we also sustain the § 103 rejection of all appealed claims as unpatentable over Abdou-Sabet, Wszolek, and Gerber.<sup>1</sup>

### Conclusion

The decision of the Examiner is affirmed.

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<sup>1</sup> Our decision to sustain this rejection does not require a discussion of the Gerber reference.

Appeal 2010-007649  
Application 10/567,292

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

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